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10. (Amended) A kit comprising the RecA-like recombinase and the nonhydrolyzable nucleotide co-factor, the kit being used for preparing the RecA-like recombinase/single-stranded nucleic acid probe complex of claim 1.

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13. (Amended) The method of claim 8, wherein the label or ligand is biotin or digoxigenin.

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15. (Amended) A method for detecting a double-stranded target nucleic acid in a fixed cell sample by *in situ* hybridization, wherein the RecA-like recombinase/single-stranded nucleic acid probe complex prepared by the method of claim 8 is used.

16. (Amended) A method for targeting a double-stranded target nucleic acid in a living cell sample by *in vivo* gene targeting, wherein the RecA-like recombinase/single-stranded nucleic acid probe complex prepared by the method of claim 1 is used.

17. (Amended) The method of claim 1, wherein the double-stranded target nucleic acid is double-stranded target DNA.

18. (Amended) The method of claim 11, wherein the RecA-like recombinase/single-stranded nucleic acid probe complex is reacted with a sample containing the double-stranded target nucleic acid in the presence of monovalent cations.

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21. (Amended) A kit for targeting, enriching, detecting, and/or isolating double-stranded target nucleic acid in a sample, the kit comprising the RecA-like recombinase/single-stranded nucleic acid probe complex prepared by a method of claim 1.